

REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Applicants assert that the present invention is new, non-obvious and useful. Favorable reconsideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 81-85, 90, 91 and 97-102 are currently pending in the Application. Claims 86-89 and 92-94 have been withdrawn from consideration. Claims 81, 90, 97 and 100 have been amended. Claims 82-84 have been cancelled without prejudice to their filing in a continuation or divisional application. No new matter has been added.

35 U.S.C. § 102 Rejection

In the Office Action, the Examiner rejected claims 81-85, 90-91, and 97-102 under 35 U.S.C. § 102(e) as being unpatentable over Tanaka et al. (US Patent No. 6,667,765).

Applicants respectfully traverse the rejection of claims 81-85, 90-91, and 97-102 under 35 U.S.C. § 102(e) in view of the remarks that follow.

Applicants' claim 81, as amended, recites, inter alia:

a controller, wherein the controller is configured to, *across a plurality of imaging periods*, within each imaging period, operate the light source to emit white light, record, via one or more control pixels, the control pixels being a subset of the plurality of pixels, the amount of the white light that is reflected to the imaging device, control the image gain level of the imager based on the amount of the white light that is reflected to the imaging device, and capture and transmit an image frame. (emphasis added)

Claims 97 and 100 each include different limitations from claim 81, but for the purpose of the arguments below, similar claim limitations will be discussed.

Applicants' claim 90, as amended, recites, inter alia:

across a plurality of imaging periods:
operating at least one light source to emit white light within an imaging period;

at a sampling instance, recording the amount of the white light that is reflected to one or more control pixels, the control pixels being a subset of the plurality of pixels;

comparing an amount of the white light recorded at at least one sampling instance within said imaging period to a determined light saturation threshold; and

controlling the imaging device's gain factor in relation to the difference between said recorded amount of the white light that is reflected to the imaging device and said light saturation threshold; and capturing and transmitting an image frame.

Tanaka discloses a digital camera with a display serving as a viewfinder. During an image capture mode, an automatic gain control circuit adjusts the gain of the signals. (Col. 6, lines 15-25). However, during the image capture mode, only one image is taken: images are not taken across a plurality of imaging periods. (Col. 4, lines 29-40). In Applicants' independent claims 81, 90, 97 and 100, as amended, images are taken across a plurality of imaging periods, and within each imaging period, the gain is controlled.

In addition, Tanaka discloses a "photo sensor 305, which is provided in front of the housing 3A" and which is separate from Tanaka's imager 303. (Tanaka, col. 5, ll. 1-8). Therefore, Tanaka lacks the limitation of recording, via one or more control pixels being a subset of a plurality of pixels of an imager, the amount of light reflected to the imager.

The discussion on page 36, lines 17-31 of the present application as filed discloses some advantages of some embodiments of the presently amended claims. In some embodiments, the advantages of placing the sensor at the same surface of the imager pixels, or being part of the imager itself, include higher accuracy. Further, the requirement for an external light sensor may be eliminated in some embodiments which in turn simplifies the construction of the device. Another advantage may be that the signal to noise characteristics and temperature dependence is similar to the non-control pixels of the imager.

In addition, Tanaka does not disclose comparing light received at "a sampling instance" as required in claim 90, as amended.

Therefore, claims 81, 90, 97 and 100 as amended are allowable over Tanaka.

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Claims 82-84 have been cancelled. Each of claims 85, 91, 98-99, and 101-102 depends from one of claims 81, 90, 97, or 100 and includes all the limitations thereof. Therefore, each of claims 85, 91, 98-99, and 101-102 are likewise allowable over Tanaka.

Accordingly, Applicants respectfully request that the rejection of claims 81-85, 90-91, and 97-102 under 35 U.S.C. § 102(e) be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, Applicants assert that the pending claims are allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this paper, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

No fees are believed to be due in connection with this paper. However, if any such fees are due, please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



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